

providing a target nucleic acid molecule;
providing an oligonucleotide primer complementary to a portion of the target nucleic acid molecule;
providing a nucleic acid polymerizing enzyme;
providing a plurality of types of nucleotide analogs;
blending the target nucleic acid molecule, the oligonucleotide primer, the nucleic acid polymerizing enzyme, and the plurality of types of nucleotide analogs to form an extension solution where the oligonucleotide primer is hybridized to the target nucleic acid molecule to form a primed target nucleic acid molecule and the nucleic acid polymerizing enzyme is positioned to add the plurality of types of nucleotide analogs to the primed target nucleic acid molecule at an active site;
extending the oligonucleotide primer in the extension solution by using the nucleic acid polymerizing enzyme to add a nucleotide analog to the oligonucleotide primer at the active site to form an extended oligonucleotide primer, wherein the nucleotide analog being added is complementary to the nucleotide of the target nucleic acid molecule at the active site;
measuring the amounts of each type of the unreacted plurality of types of nucleotide analogs remaining in the extension solution after said extending;
comparing the amounts of each type of the unreacted plurality of types of nucleotide analogs remaining in the extension solution after said extending to the amounts of each type of the plurality of types of nucleotide analogs in a control sample which did not undergo said step of extending; and
identifying the type of unreacted plurality of types of nucleotide analogs which is present in the extension solution after said extending in an amount less than in the control sample as the nucleotide added to the oligonucleotide primer at the active site so that the nucleotide at the active site of the target nucleic acid molecule is determined.

3. (Amended) A method according to claim 1, wherein said measuring is carried out by electrospraying the extension solution.

12. (Amended) A method according to claim 3, wherein said measuring comprises detecting the amounts of each type of the unreacted plurality of types of nucleotide analogs in the electrospray.

18. (Amended) A method according to claim 3 further comprising:
evaporating the extension solution to leave a residual material and
reconstituting the residual material in water after said extending and before the
electrospraying.

20. (Amended) A method according to claim 1, wherein said providing
a target nucleic acid molecule comprises:
providing the target nucleic acid molecule in a sample and
subjecting the sample to a polymerase chain reaction to amplify the nucleic
acid molecule.